

**DEBUGGER WITH AUTOMATIC DETECTION OF CONTROL  
POINTS INFLUENCING PROGRAM BEHAVIOR**

**ABSTRACT OF THE DISCLOSURE**

A method and apparatus for debugging computer programs that provides means for inserting breakpoints at program logic decision points that may have caused an event to occur. Such an event may be an unexpected halt, the execution of unexpected program statements, or the assignment to a variable of an unexpected value. A Control Flow Graph (CFG) is provided that represents the possible flows through the computer program as a sequence of basic blocks. A Control Dependence Graph (CDG) is provided that maps each basic block in the computer program to those other blocks that may determine whether the first block will be executed. The information in the CFG and CDG is used to determine where the breakpoints should be set.

0031407-022101